



From the desk of...

The value of asset stress feedback to Operators



by Roger Harker

President and Chief Operating Officer
Bently Nevada Corporation

Production goals must be met and production support costs reduced in order to stay competitive in today's global marketplace. Government regulations require safety and environmental risk reduction. Improved management of production-related assets, through online stress and condition feedback to operations personnel, can directly affect a business' ability to compete and to comply. Managing machines in this way will be a key factor in staying competitive in the future.

We are committed to "Helping you Protect and Manage your Machinery." This includes critical high speed, reciprocating, and general-purpose machinery. We view machinery as a subset of plant assets and recognize your need to have high value, cost-effective asset management solutions.

The operation of production-related assets outside of design limits usually has a negative impact on reliability and asset life. When operations personnel are given adequate feedback of the effect of operational decisions on assets, they can usually make process modifications. These modifications greatly reduce asset

stress, and minimally affect plant operations. Using the feedback to increase asset reliability and life, without significant production loss, maximizes profitability and can reduce safety and environmental risks.

Production-related assets, such as pumps, motors, blowers, gearboxes, fans, centrifuges and other machines, support the production process. They are part of the production system and, consequently, are affected by changes in the process. These changes may result in short-term excessive stress levels but, if repetitive, the excessive stress levels can reduce asset life and increase support costs. Asset management programs are effective for determining asset degradation but must also provide the feedback necessary to quickly identify unusual stress, correlate process conditions, and help find and eliminate the fundamental causes.

Operators are ideally positioned to effectively use this feedback and initiate corrective action. Let's use an analogy where an automobile is the asset and the driver is the operator. The driver is always present, is aware of operating conditions, and has the direct ability to change operating conditions. If the car had a gauge indicating the level of stress caused by particular driving conditions, which flashed when the stress exceeded allowable levels, the driver could minimize wear, and expense, by modifying conditions. Over time, the driver could learn to avoid many undesirable conditions altogether. In some cases, the driver might modify the car to accept the additional stress, but in either situation, feedback enables the driver to increase life of the vehicle and minimize expenses.

An added benefit comes when other drivers who drive differently and don't have the original driver's knowledge operate the vehicle. If the key conditions to avoid could be communicated, the other drivers would get direct feedback based on that knowledge. It is easy to extend this analogy to the plant operator. Providing asset stress and condition feedback allows them to quickly respond to undesirable conditions and learn to avoid many of them entirely. Documenting appropriate action for all personnel to take under certain stress conditions is valuable corporate learning.

Bently Nevada Corporation provides protection and management information systems for critical machinery. The information feedback from these systems is provided to both maintenance and operations personnel. On a daily basis, we see the valuable decisions this information allows operations personnel. These experiences have led us to develop an online system for smaller machines, which provides much of the same value but at significantly lower cost.

The system is Trendmaster® 2000 for Windows®, which is designed for the larger population of general-purpose machines. Customers using this system are improving reliability and significantly reducing maintenance costs. The timely information provided by Trendmaster 2000 enables operators to prevent otherwise certain catastrophic failures. Maintenance efficiency is also improved by helping to effectively use resources, and provide insight into the fundamental causes of machinery problems, not just the symptoms. ■